WHAT IS CLAIMED IS::

1. A process for producing a saccharide having a lowered molecular weight, which comprises at least a step of irradiating an electron beam to a polysaccharide fraction.

2. The process according to claim 1, wherein the polysaccharide fraction to which the electron beam is irradiated is in a solid state, and the electron beam is irradiated at a dosage of d (kGy) which satisfies the following equation:

$$n = Me^{ad}$$

wherein M represents a weight average molecular weight (Da) of the polysaccharide fraction and is a number of 5,000 to 70,000; n represents a weight average molecular weight (Da) of the saccharide having a lowered molecular weight and is an optional positive number; e is the base of natural logarithm; and a is a number of -0.008 to -0.004.

3. The process according to claim 2, wherein a is a number of -0.008 to -0.005.

4. The process according to claim 3, wherein a is a number of -0.0075 to -0.0050.

5. The process according to claim 1, wherein the polysaccharide fraction to which the electron beam is irradiated is a glycosaminoglycan fraction.

6. The process according to claim 5, wherein the glycosaminoglycan fraction is a fraction comprising at least one species of glycosaminoglycans selected

from the group consisting of hyaluronic acid, chondroitin sulfate, dermatan sulfate, keratan sulfate, heparan sulfate and heparin.

7. A method for lowering the molecular weight of a polysaccharide, which comprises irradiating an electron beam to a polysaccharide fraction.

8. The method according to claim 7, wherein the polysaccharide fraction to which the electron beam is irradiated is in a solid state, and the electron beam is irradiated at a dosage of d (kGy) which satisfies the following equation:

$$n = Me^{ad}$$

wherein M represents a weight average molecular weight (Da) of the polysaccharide fraction and is a number of 5,000 to 70,000; n represents a weight average molecular weight (Da) of the saccharide having a lowered molecular weight and is an optional positive number; e is the base of natural logarithm; and a is a number of -0.008 to -0.004.

9. The method according to claim 8, wherein a is a number of -0.008 to -0.005.

10 The method according to claim 9, wherein a is a number of -0.0075 to -0.0050.

11. The method according to claim 7, wherein the polysaccharide fraction to which the electron beam is irradiated is a glycosaminoglycan fraction.

12. The method according to claim 11, wherein the glycosaminoglycan fraction is a fraction containing at least one species of glycosaminoglycans selected

from the group consisting of hyaluronic acid, chondroitin sulfate, dermatan sulfate, keratan sulfate, heparan sulfate and heparin.

13. A process for producing hyaluronic acid having a lowered molecular weight, which comprises at least a step of irradiating an electron beam to a hyaluronic acid fraction.

14. The process according to claim 13, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 5,000 to 3,000,000 (Da) and is in a solid state, and the electron beam is irradiated at a dosage of 5 to 400 (kGy).

15. The process according to claim 14, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 200,000 to 3,000,000 (Da); the dosage is from 5 to 15 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 100,000 to 200,000 (Da).

16. The process according to claim 14, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 100,000 to 3,000,000 (Da); the dosage is from 15 to 30 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 60,000 to 100,000 (Da).

17. The process according to claim 14, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 50,000 to 3,000,000 (Da); the dosage is from 30 to 50 (kGy); and the hyaluronic acid

having a lowered molecular weight has a weight average molecular weight of 30,000 to 60,000 (Da).

18. The process according to claim 14, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 30,000 to 3,000,000 (Da); the dosage is from 50 to 150 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 20,000 to 30,000 (Da).

19. The process according to claim 14, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 20,000 to 3,000,000 (Da); the dosage is from 150 to 250 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 10,000 to 20,000 (Da).

20. The process according to claim 14, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 5,000 to 3,000,000 (Da); the dosage is from 250 to 350 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 3,000 to 10,000 (Da).

21. A process for producing hyaluronic acid having a lowered molecular weight, which comprises at least a step of irradiating an electron beam to a hyaluronic acid fraction which has a weight average molecular weight of 600,000 to 1,200,000 (Da) and is in a liquid state at a dosage of 10 to 80 (kGy).

22. The process according to claim 21, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 600,000 to 1,200,000 (Da); the dosage is from 10 to 30 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 2,500 to 4,000 (Da).

23. The process according to claim 21, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 600,000 to 1,200,000 (Da); the dosage is from 30 to 50 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 1,700 to 2,500 (Da).

24. The process according to claim 21, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 600,000 to 1,200,000 (Da); the dosage is from 50 to 80 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 1,300 to 1,700 (Da).

25. A method for lowering the molecular weight of hyaluronic acid, which comprises irradiating an electron beam to a hyaluronic acid fraction.

26. The method according to claim 25, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 5,000 to 3,000,000 (Da) and is in a solid state; and the electron beam is irradiated at a dosage of 5 to 400 (kGy).

27. The method according to claim 26, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 200,000 to 3,000,000 (Da); the dosage is from 5 to 15 (kGy); and the hyaluronic acid after lowering the molecular weight has a weight average molecular weight of 100,000 to 200,000 (Da).

28. The method according to claim 26, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 100,000 to 3,000,000 (Da); the dosage is from 15 to 30 (kGy); and the hyaluronic acid after lowering the molecular weight has a weight average molecular weight of 60,000 to 100,000 (Da).

29. The method according to claim 26, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 50,000 to 3,000,000 (Da); the dosage is from 30 to 50 (kGy); and the hyaluronic acid after lowering the molecular weight has a weight average molecular weight of 30,000 to 60,000 (Da).

30. The method according to claim 26, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 30,000 to 3,000,000 (Da); the dosage is from 50 to 150 (kGy); and the hyaluronic acid after lowering the molecular weight has a weight average molecular weight of 20,000 to 30,000 (Da).

31. The method according to claim 26, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 20,000 to 3,000,000 (Da); the dosage is from 150 to 250 (kGy); and the hyaluronic acid

after lowering the molecular weight has a weight average molecular weight from 10,000 to 20,000 (Da).

32. The method according to claim 26, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 5,000 to 3,000,000 (Da); the dosage is from 250 to 350 (kGy); and the hyaluronic acid after lowering the molecular weight has a weight average molecular weight of 3,000 to 10,000 (Da).

33. A method for lowering the molecular weight of hyaluronic acid, which comprises irradiating an electron beam to a hyaluronic acid fraction which has a weight average molecular weight of 600,000 to 1,200,000 (Da) and is in a liquid state at a dosage of 10 to 80 (kGy).

34. The method according to claim 33, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 600,000 to 1,200,000 (Da); the dosage is from 10 to 30 (kGy); and the hyaluronic acid after lowering the molecular weight has a weight average molecular weight of 2,500 to 4,000 (Da).

35. The method according to claim 33, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 600,000 to 1,200,000 (Da); the dosage is from 30 to 50 (kGy); and the hyaluronic acid after lowering the molecular weight has a weight average molecular weight of 1,700 to 2,500 (Da).

36. The method according to claim 33, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 600,000 to 1,200,000 (Da); the dosage is from 50 to 80 (kGy); and the hyaluronic acid after lowering the molecular weight has a weight average molecular weight of 1,300 to 1,700 (Da).